

## **CLAIMS**

We claim:

- 5
1. A ferrule for supporting an optical fiber, comprising first and second half ferrules that together define a shaft sized and shaped to receive the optical fiber.
  2. The ferrule of claim 1, wherein the first and second half ferrules are generally  
10 complementary in structure, which together form a generally cylindrical body.
  3. The ferrule of claim 2, wherein the body has a cross-section that is generally at least one of circular, partially circular, rectangular, and loop.
  - 15 4. The ferrule of claim 3, wherein the body is generally uniform in cross-section for an entire length of the body.
  5. The ferrule of claim 2, wherein each of the first and second half ferrules comprises a hollow structure.  
20
  6. The ferrule of claim 1, wherein the first and second half ferrules are attached to each other.
  7. The ferrule of claim 1, further comprising a guide pin for alignment with a  
25 complementary ferrule.
  8. The ferrule of claim 1, wherein the first and second half ferrules together define a shaft sized and shaped to receive a guide pin.

9. The ferrule of claim 1, wherein the first and second half ferrules are connected in an integral structure.
10. A ferrule for supporting an optical fiber, comprising:  
5 a generally cylindrical body, having a periphery defining at least two contact surfaces; and  
a shaft defined in the body, the shaft sized and shaped to receive the optical fiber.
11. The ferrule as in claim 10, wherein the contact surfaces are located at the periphery of the body such that when said contact surfaces come into contact with a surrounding external surface,  
10 biasing contact pressure towards the shaft.
12. The ferrule of claim 11, wherein the body defines more than one shaft for receiving more than one optical fiber, and wherein the periphery of the body defines at least two contact surfaces associated with each shaft.  
15
13. The ferrule of claim 10, further comprising a member extending from the body, which supports a section of the optical fiber not received in the shaft of the body.
14. The ferrule of claim 13, wherein the member includes a support for a strength member  
20 that receives the optical fiber.
15. A connector for connecting first and second optical fibers in an optoelectronic assembly, comprising:  
a first ferrule supporting the first optical fiber;  
25 a second ferrule supporting the second optical fiber;  
means for aligning the first optical fiber relative to the second optical fiber;  
at least one of the first and second ferrules comprises first and second half ferrules that together define a shaft sized and shaped to receive an optical fiber.

16. The connector as in claim 15, wherein the means for aligning comprises a sleeve sized to receive the first and second ferrules.

17. The connector as in claim 16, wherein at least the first and second ferrules includes a  
5 groove or protrusion on its surface and the sleeve includes a complementary protrusion or groove.

18. The connector as in claim 15, wherein the means for aligning comprises a guide pin in one of the first and second ferrules, which is received in a guide hole in the other one of the first  
10 and second ferrules.

19. The connector as in claim 18, wherein the guide pin comprised in one of the first and second ferrules comprises a pin received in a hole defined in said one of the first and second ferrules.

20. The connector of claim 15, wherein the aligning means includes a guide pin and the first and second ferrules each including a pin shaft sized and shaped to receive the guide pin.

21. A connector for connecting first and second optical fibers in an optoelectronic assembly,  
20 comprising:

a first ferrule supporting the first optical fiber;

a second ferrule supporting the second optical fiber, wherein at least one of the first and second ferrules having a generally cylindrical body that has a periphery defining at least two contact surfaces;

25 a sleeve for aligning the first fiber relative to the second fiber, wherein the sleeve is sized and shaped to contact the contact surfaces on said periphery, biasing contact pressure towards the respective one of the first and second optical fibers.

22. The connector of claim 21, wherein at least one of the first and second ferrules has a  
30 cross-section that is generally at least one of circular, partially circular, rectangular, and loop.

23. A process for producing a ferrule for supporting an optical fiber, the process comprising the following steps:

stamping a body; and

5 stamping a shaft on the body, wherein the shaft is sized and shaped to receive the optical fiber.

24. The process of claim 23, wherein the step of stamping the body further comprises:

stamping a first ferrule half having a first surface;

10 stamping a second ferrule half having a second surface; and

assembling the first and second ferrule halves together at the first and second surfaces.

25. The process of claim 24, wherein the step of stamping the first ferrule half and the step of stamping the second ferrule half occurs simultaneously.

15

26. The process of claim 24, wherein the step of stamping the first ferrule half and the step of stamping the second ferrule half includes stamping the first and second ferrule halves from a single work piece.

20 27. The process of claim 24, wherein the step of stamping the first ferrule half and the step of stamping the second ferrule half include forging the first and second ferrule halves.

28. The process of claim 24, wherein the step of assembling the first and second ferrule halves together comprises:

25 stamping the first and second ferrule halves with notches at the first and second surfaces;  
and

attaching the first and second ferrule halves together at the notches of the first and second ferrule halves.

29. The process of claim 28, wherein the step of stamping the first and second ferrule halves with notches includes forging the notches.
30. The process of claim of claim 28, wherein the step of attaching the first and second halves  
5 together includes welding at the notches.
31. The process of claim of claim 28, wherein the step of attaching the first and second halves together includes providing an adhesive material at the notches.
- 10 32. The process of claim 24, wherein the step of stamping the shaft comprises:  
stamping a first groove on the first surface of the first half ferrule;  
stamping a second groove on the second surface of the second half ferrule; and  
assembling the first and second half ferrules together at the first and second surfaces to  
define the shaft.
- 15 33. The process of claim 32, wherein the steps of stamping the first groove and stamping the second groove include forging the first and second grooves.
- 20 34. The process of claim 23, wherein the step of stamping the body comprises  
forming the body from a single sheet work piece having two ends; and  
attaching the two ends together.
- 25 35. The process of claim 34, wherein the step of forming the body includes forming a plurality of protrusions extending from the shaft.
36. The process of claim 34, wherein the step of attaching the two ends together includes welding the two ends together.

37. A component for supporting an optical fiber in an optoelectronic assembly, comprising a body defining a bore for supporting the optical fiber, wherein the body has a structured that is configured and shaped by a stamping process.
- 5 38. The component as in claim 37, wherein the body is configured and shaped to be produced by at least one of forming and forging process.
39. The component as in claim 38, wherein the body is generally cylindrical.
- 10 40. The component as in claim 39, where the body has a generally uniform cross-section.
41. The component as in claim 40, wherein the body has a cross-section that is generally at least one of circular, partially circular, rectangular, and loop.
- 15 42. The component as in claim 41, wherein the body has a generally star-shaped cross-section, formed from a generally flat material.
43. The component as in claim 39, further comprising a generally cylindrical sleeve that receives the body.
- 20 44. The component as in claim 38, wherein the body comprises at least two ferrule pieces.
45. The component as in claim 44, wherein the at least two ferrule pieces are shaped to complement each other to define the bore for supporting the optical fiber.
- 25 46. The component as in claim 45, wherein the at least two ferrule pieces are substantially identical.
47. A connector for coupling two optical fibers in an optoelectronic assembly, comprising:

a first component for supporting a first optical fiber, comprising a first body defining a first bore for supporting the first optical fiber, wherein the first body has a first structure that is configured and shaped by a stamping process;

5 a second component for supporting a second optical fiber, comprising a second body defining a second bore for supporting the second optical fiber, wherein the second body has a second structure that is configured and shaped by a stamping process; and

a third component for aligning the first component and the second component so that the first optical fiber is aligned with the second optical fiber.